

	物化學博士	
洪建龍 助理教授	國立台灣大學植物病理與微生物研究所 博士	植物病理學、微生物學
郭泰志 助理教授	德州大學奧斯汀分校博士	核酸化學與生化、生物物理、分子生物、生化學
羅翠勻 講師	臺北醫學院醫研所碩士	分子生物學
郭憲壽 名譽教授	日本名城大學大藥學院藥學部博士	有機合成化學
王淑慧 兼任講師	國立中興大學化學所碩士	NMR analysis, ICP-MS analysis, LC/MS/MS analysis and Organic chemistry
吳玟欣 兼任講師	臺北醫學大學醫研所碩士	分子生物學、普通化學
趙素慧 兼任助理教授	臺北醫學大學藥研所博士	分析化學、藥物分析、水質分析

### 研究特色

研究方面，本團隊於幹細胞研究、生殖醫學、粒線體醫學、斑馬魚基因轉殖工程、飲用水分析、質譜分析、組織工程及化學合成與藥物設計皆有卓然的表現。

(施純明 主任/副教授)

## Department of Biochemistry

### History and overview

The Department of Biochemistry was established in 1960, in the then newly founded Taipei Medical College. The faculty of this department provides comprehensive curricula in general chemistry, analytical chemistry, organic chemistry, and biochemistry to students of the university. The goal of our teaching is to help students acquire knowledge and skills of chemical sciences that are essential to students' professional careers.

### Goal and Distinctive Features of Education

The general chemistry includes lectures and laboratory exercises. The lectures are designed for the freshman undergraduates to understand the principals of chemistry. In the lab exercises, students will experience themselves with the chemistry principals by conducting experiments with instruments, recording data and performing analysis. The training of the general chemistry will pave the way for students to study advanced chemistry courses.

The analytical chemistry curriculum contains the separation, identification, quantification, and data appraisal. The purposes are: 1) To insure

students' analytical skills, comprehension, and problem solving ability, 2) To promote students' data judgment ability, and 3) To insure students have the good foundation in science application.

Organic chemistry is a fundamental tool for the study of life sciences. The teaching of organic chemistry is to make students familiar with the structures and reaction mechanisms of organic compounds. In the lectures, the nomenclatures, properties and reactions of functional groups of organic compounds will be introduced to students, along with topics of stereochemistry, organic synthesis and spectroscopy analysis. In the laboratory exercises, students will practice various techniques of organic chemistry such as extraction, distillations, re-crystallization, TLC, GC,

The scopes of biochemistry generally are on the chemical, physical and functional characterizations of biological macromolecules. In this course, students will be introduced with various methods of biochemical studies which are the foundation to our understanding of the chemistry of biological world. Students will also learn the knowledge of biological molecules, such as the structure and function of proteins, nucleic acids, lipids, and carbohydrates; the principles of chemical equilibrium, enzyme catalysis, and bioenergetics; fundamental metabolic pathways, and the chemical nature of genetic information storage and transmission. At the end of this course, students should be familiar with the biological molecules that are important to living organisms, know well the

fundamental pathways of catabolism and anabolism, and have an understanding of how genetic processes are accomplished at the molecular level.

Laboratory exercises include modern molecular

biology and biochemical techniques; students will practice operating various instruments in this course. An integrated problem-based learning (PBL) curriculum for biochemistry teaching in medical sciences is also adopted.

### Faculty

Name/Academic position	Degree	Research fields
Shih, Chwen-Ming Associate professor	Ph. D. Institute of Biochemistry, National Yang-Ming University	Biochemistry; Molecular biochemistry; Mitochondria biology; Virus.
Wang Leng-Fang professor	M.S., Institute of Biochemistry, National Taiwan University	Molecular biochemistry.
E-E Chang professor	M.S., Institute of Applied Chemistry, Chinese Culture University	Analytical chemistry; Physical-chemical treatment processes for water purification; Development of the drinking water quality standard, Source water Quality standard and water treatment chemical rules.
Chen Chien-Tsu professor	Ph. D., Brandeis University, USA	Protein therapy, Cell signaling, Molecular structure.
Cheng Huey-Hwa professor	B.S., Taipei Medical University	General chemistry/Natural products Chemistry/Pharmacy
Cheng Kur-Ta professor	Ph. D., Institute of Botany, National Taiwan University, Taiwan	Identification biotechnologies of chinese medicine, DNA data base of chinese medicine, Development of natural cosmetics and health food products
Chih-Ming, Chou Associate professor	Ph. D. Institute of Zoology, National Taiwan University	Molecular biology, Biotechnology, Embryogenesis of zebrafish.
Chun-Mao Lin PhD Associate professor	Ph. D. Institute of Biochemistry, National Taiwan University	Drug design, Protein metabolism, Molecular cell biology, Molecular biology, Biochemistry.
Yen-Hua Huang Associate professor	Ph. D. Institute of Biochemistry, National Taiwan University	Stem cell activation and regulation signals : Cancer stem cells/germ line stem cells/endometrium stem cells in cancer. Guanylyl cyclase G receptor and IGF-1 receptor in stem cell activation and tumorigenesis.
Fu-Der Mai PhD Associate professor	Ph. D. Department of Chemistry, National Tsing-Hua University	Biomedical Mass image analysis, Nano-biomedical analysis, Green chemistry analysis
How Tseng Associate professor	PhD, Department of Biomaterial Sciences , Tokyo Institute of technology	Tissue engineering, Nano biosystem, Cell engineering
Chiang-Hung Chou	PhD, Institute of Life	Molecular biology, Molecular cell biology, Molecular

Assistant Professor	Science, Nation Defense Medical Center	oncology
Jui-Yu Wu Assistant Professor	Ph. D. Wayne State University, Ph.D. in Chemistry and Biochemistry	Nucleic acids chemistry, Chemical biology, Genomics, Biosensor, Bio-computing and system biology
Chien Lung Hung Assistant Professor	Ph. D. Institute of Plant and Microbial Biology	Plant pathology, Microbiology.
Tai-Chih Kuo PhD Assistant Professor	Ph. D. University of Texas at Austin, USA	Nucleic acid chemistry and biochemistry, biophysics, Molecular biology, Molecular engineering of nucleic acids and proteins
Tsui-Yun Lo Instructor	M.S., Institute of Medical Sciences, Taipei Medical University	Molecular biology,
Hsien Saw Kuo Professor Emeritus	Ph. D. Meijo University	Organic synthesis chemistry.
Shwu Huey Wang Adjunct Instructor	M.S., Institute of Chemistry, National Chung Hsing University	NMR analysis, ICP-MS analysis, LC/MS/MS analysis and Organic chemistry
Wen Shin Wu Adjunct Instructor	M.S., Institute of Medical Sciences, Taipei Medical University	Molecular biology, Chemistry
Hsui Huey Chao Adjunct Assistant Professor	M.S., Institute of Pharmacy, Taipei Medical University	Analytic chemistry, Drug analysis,

### Distinctive Feature of Research

We work on a number of diverse research projects and programs including reproduction medicine, mitochondrion medicine, gene manipulated zebra fish, mass spectrometry application, tissue engineering, organic synthesis, and drug design, etc. (Chwen-Ming Shih, Director/Associate Professor)

### 生理學科

#### 簡史及概況

生理學科於民國四十九年(1960)本學院創辦伊始，由常務董事兼教務主任郭宗煥教授籌設成立，而研究室成立於民國五十三年，由吳京一教授兼主任，至民國五十六年八月從高雄醫學院敦聘醫學博士張鎮教授兼主任，於民國六十九年三月不幸病逝，由劉鴻榮教授兼主任。民國七十年八月劉鴻榮教授赴日深造，由黃崇仁客座副教授兼主任，民國七十二年八月劉鴻榮

教授學成返校擔任科主任，至民國七十九年八月由蔡麗雪教授兼主任，民國八十七年八月由李文森教授兼主任，次年併入原屬共同學科之物理組及生物組教學任務及師資，至民國九十四年八月由李怡萱教授兼主任迄今。

#### 教學目標

生理學科的教學目標為使醫學生具備邏輯思考的能力、解決問題的能力、創意思維、終身自學能力、及具備醫學生理學的專業知識。課程設計更規劃相關人文課程，使學生以具備對病人有同理心的人格基礎來提昇其學習生理學的動機，並以此為幫助病人之必備學識。教學內涵中並導入最新的生理學研究發展在臨床醫學的應用，使學生具備世界觀及學習醫學新知的能力。

#### 教學特色

生理學科自八十八學年度起，即立定以啟發式及現代化為教學導向，著手進行全校生理學、物理學、及生物學教學方式與內容之改進及學生實驗內容與器材設